

**Figure 1. Amino acid sequence alignment in human IgG isotypes and their variants.**

Human IgG Isotype	Amino Acid Position					
	228.....234	235	236	237.....330	331	
G1	Pro.....Leu	Leu	Gly	Gly.....Ala	Pro	
G2	Pro.....Val	Ala	.....	Gly.....Ala	Pro	
G4	Ser.....Phe	Leu	Gly	Gly.....Ser	Ser	
G1 variant	Pro..... <b>Val</b>	<b>Ala</b>	Gly	Gly.....Ala	<b>Ser</b>	
G2 variant	Pro.....Val	Ala	.....	Gly.....Ala	<b>Ser</b>	
G4 variant	<b>Pro</b> .....Phe	<b>Ala</b>	Gly	Gly.....Ser	Ser	

<u>ID number</u>	<u>Corresponding Row in this Figure 1</u>
SEQ ID NO:26	G1
SEQ ID NO:27	G2
SEQ ID NO:28	G4
SEQ ID NO:22	G1 variant
SEQ ID NO:18	G2 variant
SEQ ID NO:20	G4 variant

**Figure 2A. DNA and deduced amino acid sequences of hG-CSF-L-vFc<sub>γ2</sub>**

DNA		SEQ ID NO: 17	
Amino Acid Sequence		SEQ ID NO: 18	
aag ctt ccc aga ccc atg gct gga cct gcc acc cag agc ccc atg aag ctg atg gcc ctg			60
<i>Hind</i> III	M A G P A T Q S P M K L M A L		
	-30	-20	
cag ctg ctg tgg cac agt gca ctc tgg aca gtg cag gaa gcc acc ccc ctg ggc cct			120
Q L L L W H S A L L W T V Q E A T P L G P		-1	
	-10	1	
gcc agc tcc ctg ccc cag agc ttc ctg ctc aag tgc tta gag caa gtg agg aag atc cag			180
A S S L P Q S F L L K C L E Q V R K I Q		20	
	10		
ggc gat ggc gca gcg ctc cag gag aag ctg tgt gcc acc tac agc ctg tgc cac ccc gag			240
G D G A A L Q E K L C A T Y K L C H P E		40	
	30		
gag ctg gtg ctg ctc gga cac tct ctg ggc atc ccc tgg gct ccc ctg agc agc tgc ccc			300
E L V L L G H S L G I P W A P L S S C P		60	
	50		
agc cag gcc ctg cag ctg gca ggc tgc ttg agc caa ctc cat agc ggc ctt ttc ctc tac			360
S Q A L Q L A G C L S Q L H S G L F L Y		80	
	70		
cag ggg ctc ctg cag gcc ctg gaa ggg atc tcc ccc gag ttg ggt ccc acc ttg gac aca			420
Q G L L Q A L E G I S P E L G P T L D T		100	
	90		
ctg cag ctg gac gtc gcc gac ttt gcc acc acc atc tgg cag cag atg gaa ctg gga			480
L Q L D V A D F A T T I W Q Q M E L G		120	
	110		
atg gcc cct gcc ctg cag ccc acc cag ggt gcc atg ccg gcc ttc gcc tct gct ttc cag			540
M A P A L Q P T Q G A M P A F A S A F Q		140	
	130		
cgc cgg gca gga ggc gtc cta gtt gcc tcc cat ctg cag agc ttc ctg gag gtg tcg tac			600
R R A G G V L V A S H L Q S F L E V S Y		160	
	150		
cgc gtt cta cgc cac ctt gcc cag ccc gga tcc ggt gcc ggt tcc ggt gga ggc gga agc			660
R V L R H L A Q P G S G G G G G G S		180	
	170		

ggc ggt gga gga tca gag cgc aaa tgt tgt gtc gag tgc cca ccg tgc cca gca cca cct 720  
 G G G S 190  
 gtg gca gga ccg tca gtc ttc ctc ttc ccc cca aaa ccc aag gac acc ctc atg atc tcc 780  
 V A G P S  
 cgg acc cct gag gtc acg tgc gtg gtg gac gtg agc cac gaa gac ccc gag gtc cag 840  
 R T P E V T C V V V D V S H E D P E V Q  
 ttc aac tgg tac gtg gag ggc gtg gag gtg cat aat gcc aag aca aag cca ccg gag gag 900  
 F N W Y V D G G V E V H N A K T P R E E  
 cag ttc aac agc acg ttc cgt gtg gtc agc gtc ctg acc gtt gtg cac cag gac tgg ctg 960  
 Q F N S T F R V V S V L T V V H Q D W L  
 aac ggc aag gag tac aag tgc aag gtc tcc aac aaa ggc ctc cca gcc tcc atc gag aaa 1020  
 N G K E Y K C K V S S N K G L P A S I E K  
 acc atc tcc aaa acc aaa ggg cag ccc cga gaa cca cag gtg tac acc ctc gcc ccc cca tcc 1080  
 T I S K T K G Q P R E P Q V Y T L P P S  
 cgg gag gag atg acc aag aac cag gtc agc ctg acc tgc ctg gtc aaa ggc ttc tac ccc 1140  
 R E M T K N Q V S L T C L V K G F Y P  
 agc gac atc gcc gtg gag tgg gag agc aat ggg cag ccg gag aac aac tac aag acc aca 1200  
 S D I A V E W E S N G Q P E N N Y K T T  
 cct ccc atg ctg gac tcc gac ggc tcc ttc ttc ctc ctg acc agc aag ctc acc gtg gac aag 1260  
 P P M L D S S D G G S F F L Y S K L T V D K  
 agc agg tgg cag cag ggg aac gtc ttc tca tgc tcc gtg atg cat gag gct ctg cac aac 1320  
 S R W Q Q G N V F S S V M H E A L H N  
 cac tac acg cag aag agc ctc tcc ctg tct ccg ggt aaa tga gaa ttc 1368  
 H Y T Q K S L S L S P G K EcoRI  
 410 418

**Figure 2B. DNA and deduced amino acid sequences of hG-CSF-L-vFc<sub>14</sub>**

DNA		SEQ ID NO: 19	
Amino Acid Sequence		SEQ ID NO: 20	
aag ctt ccc aga ccc atg gct gga cct gcc acc cag agc ccc atg aag ctg atg gcc ctg			60
HindIII	M A G P A T Q S P M K L M A L		
cag ctg ctg ctg tgg cac agt gca ctc tgc tgg aca gtg cag gaa gcc acc ccc ctg ggc cct			120
Q L L L W H S A L L W T V Q E A T P L G P	-30 -1 1 -20		
gcc agc tcc ctg ccc cag agc ttc ctg ctc aag tgc tta gag caa gtg agg aag atc cag			180
A S L P Q S F L L K C L E Q Q	-10 -1 1 20		
ggc gat ggc gca gcg ctc cag gag aag ctg tgt gcc acc tac agc ctg tgc cac ccc gag			240
G D G A A L Q E K L C A T Y K L C H P E	10 30 40		
gag ctg gtg ctg ctc gga cac tct ctg ggc atc ccc tgg gct ccc ctg agc agc tgc ccc			300
E L V L L G H S L G I P W A P L S S C P	50 60		
agc cag gcc ctg cag ctg gca ggc tgc tgc ttg agc caa ctc cat agc ggc ctt ttc ctc tac			360
S Q A L Q L A G G C I S Q L S Q L H S G L F L Y	70 80		
cag ggg ctc ctg cag gcc ctg gaa ggg atc tcc ccc gag ttg ggt ccc acc ttg gac aca			420
Q G L L Q A L E G I S P E L G Q	90 100		
ctg cag ctg gac gtc gcc gac ttt gcc acc acc atc tgg cag ctg gaa gaa ctg gga			480
L Q L D V A D F A T T I W Q Q M E E L G	110 120 130 140		
atg gcc cct gcc ctg cag ccc acc cag ggt gcc atg ccg gcc ttc ggc tct gct ttc cag			540
M A P A L Q P T Q G A M P A F A S A F Q	150 160		
cgc cgg gca gga ggg gtc cta gtt gcc tcc cat ctg cag agc ttc ctg gag gtg tcg tac			600
R R A G G V L V A S H L Q S F L E V S Y	170 180		
cgc gtt cta cgc cac ctt gcc cag ccc gga tcc ggt gcc ggt tcc ggt gga ggc gga agc			660
R V L R H L A Q P G S S G G G G G S	190 200		

ggc ggt gga gga tca gag tcc aaa tat ggt ccc cca tgc cca cca tgc cca gca cct gag 720  
 G G G S E S K Y G P P C P P C P A P E  
 190  
 ttc gag gga cca tca gtc ttc ctg ttc ccc cca aaa ccc aag gac act ctc atg atc 780  
 F A G G P S V F L F P P K P K D T L M I  
 210  
 tcc cgg acc cct gag gtc acg tgc gtg gtg gtg gac gtg agc cag gaa gac ccc gag gtc 840  
 S R T P E V T C V V V D V S Q E D P E V  
 230  
 cag ttc aac tgg tac gtg gat ggc gtg gag gtg cat aat gcc aag aca aag ccg cgg gag 900  
 Q F N W Y Y D G V V E V H N A K T K P R E  
 250  
 gag cag ttc aac agc acg tac cgt gtg gtg gtg agc gtg ctg acc acc gtc ctg cac cag gac tgg 960  
 E Q F N S S T Y R V V S V L T V L H Q D W  
 270  
 ctg aac ggc aag gag tac aag tgc aag gtc tcc aac aaa ggc ctc ccg tcc tcc atc gag 1020  
 L N G K E E Y K C C K V S S N K G L P S S I E  
 290  
 aaa acc atc tcc aaa gcc aaa ggc cag cca gag cca cag gtg tac acc ctg ccc cca 1080  
 K T I S K A K G Q P R E P Q V Y T L P P  
 310  
 tcc cag gag atg acc aag aac cag gtc agc ctg acc tgc ctg gtc aaa ggc ttc tac 1140  
 S Q E M T K N Q V S L T C L V K G F Y  
 330  
 ccc agc gac atc gcc gtg gag tgg gag agc aat ggg cag ccg gag aac aac tac aag acc 1200  
 P S D I A V E W E S N G Q P E N N Y K T  
 350  
 acg cct ccc gtg ctg gac tcc gac ggc tcc ttc ctg acc agc agc agc agc cta acc gtg gac 1260  
 T P P V L D S S D G G S F F L Y S R L T V D  
 370  
 aag agc agg tgg cag gag ggg aat gtc ttc tca tgc tcc gtg atg cat gag gct ctg cac 1320  
 K S R W Q E G N V F S C S V M H E A L H  
 390  
 aac cac tac aca cag aag agc ctc tcc ctg tct ctg ggt aaa tga gaa ttc 1371  
 N H Y T Q K S L S L S L G K *EcoRI*  
 410

**Figure 2C. DNA and deduced amino acid sequences of hG-CSF-L-vFc<sub>γ1</sub>**

DNA	SEQ ID NO: 21	
Amino Acid Sequence	SEQ ID NO: 22	
aag ctt ccc aga ccc atg gct gga cct gcc acc cag agc ccc atg aag ctg atg gcc ctg		60
<i>HindIII</i> M A G P A T Q S P M K L M A L		
cag ctg ctg ctg tgg cac agt gca ctc tgg aca gtg cag gaa gcc acc ccc ctg ggc cct	-30	120
Q L L L W H S A L W T V Q E A T P L G P	-20	
gcc agc tcc ctg ccc cag agc ttc ctg ctc aag tgc tta gag caa gtg agg aag atc cag	-10	180
A S L P Q S F L L K C L E Q V R K I Q	1	
ggc gat ggc gca gcg ctc cag gag aag ctg tgt gcc acc tac aag ctg tgc cac ccc gag	10	240
G D G A A L Q E K L C A T Y K L C H P E	20	
gag ctg gtg ctg ctc gga cac tct ctg ggc atc ccc tgg gct ccc ctg agc agc tgc ccc	30	300
E L V L L G H S L G I P W A P L S C P	40	
agc cag gcc ctg cag ctg gca ggc tgc ttg agc caa ctc cat agc ggc ctt ttc ctc tac	50	360
S Q A L Q L A G C L S Q L H S G L F L Y	60	
cag ggg ctc ctg cag gcc ctg gaa ggg atc tcc ccc gag ttg ggt ccc acc ttg gac aca	70	420
Q G L L Q A L E G I S P E L G P T L D T	80	
ctg cag ctg gac gtc gcc gac ttt gcc acc acc atc tgg cag cag atg gaa gaa ctg gga	90	480
L Q L D V A D F A T T I W Q Q M E L G	100	
atg gcc cct gcc ctg cag ccc acc cag ggt gcc atg ccg gcc ttc gcc tct gct ttc cag	110	540
M A P A L Q P T Q G A M P A F A S A F Q	120	
cgc cgg gca gga ggc gtc cta gtt gcc tcc cat ctg cag agc ttc ctg gag gtg tcg tac	130	600
R R A G G V L V A S H L Q S F L E V S Y	140	
cgc gtt cta cgc cac ctt gcc cag ccc gga tcc ggt ggc ggt tcc ggt gga ggc gga agc	150	660
R V L R H L A Q P G S G G G S G G G S	160	
	170	

ggc ggt gga gga tca gac aaa act cac aca tgc cca ccg tgc cca gca cct gaa gtc gccg gccg 720  
 G G G G S D K T H T C P P C P A P E V A  
 190  
 ggg gga ccg tca gtc ttc ctc ttc ccc cca aaa ccc aag gac acc ctc atg atc tcc cgg 780  
 G G P S V F L F P P P K K D T L M I S R  
 210  
 aca cct gag gtc aca tgc gtg gtg gac gtg agc cac gaa gac cct gag gtc aag ttc 840  
 T P E V T C V V V D V S H E D P E V K F  
 230  
 aac tgg tac gtg gac ggc gtg gag gtg cat aat gcc aag aca aag ccg gag gag cag 900  
 N W Y V D G V E V H N A K T K P R E Q  
 250  
 tac aac agc acg tac cgg gtg gtc agc gtc ctc acc gtc gtc ctg cac cag gac tgg ctg aat 960  
 Y N S T Y R V V S V L T T V L H Q D W L N  
 270  
 ggc aag gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca gcc tcc atc gag aaa acc 1020  
 G K E Y K C K V S N K A L P A A S I E K T  
 290  
 atc tcc aaa gcc aag ggg cag ccc cga gaa cca cag gtg tac acc ctg ccc cca tcc cgg 1080  
 I S K A K G Q P R E P Q V Y T L P P S R  
 310  
 gat gag ctg acc aag aac cag gtc agc ctg acc tgc ctg gtc aaa ggc ttc tat ccc agc 1140  
 D E L T K N Q V S L T C L V K V K G F Y P S  
 330  
 gac atc gcc gtg gag tgg gag agc aat ggg cag ccg gag aac aac tac aag acc acg cct 1200  
 D I A V E W E S N G Q P E N N Y K T T P  
 350  
 ccc gtg ctg gac tcc gac ggc tcc ttc ttc ttc agc aag ctc acc gtg gac aag agc 1260  
 P V L D S D G S F F L Y S K L T T V D K S  
 370  
 agg tgg cag cag ggg aac gtc ttc tca tgc tcc gtg atg cat gag gct ctg cac aac cac 1320  
 R W Q Q G N V F S C S V M H E A L H N H  
 390  
 tac acg cag aag agc ctc tcc ctg tct ccc ggt aaa tga gaa ttc 1365  
 Y T Q K S L S L S P G K EcoRI  
 410 417